

Some new Species of *Athysanus* and Related Genera (Homoptera).

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In working with the leaf hoppers the writer has found that the species are as a rule either confined to a single plant or else to a group of closely related plants. The few exceptions to this rule include many of our most injurious species. These forms being able to change from one plant to another are not restricted in location or season. Fortunately for us the number of these polyphagous forms is very small compared with the total number of leaf hoppers. Some of our most injurious species are on the other hand very restricted in their food habits. The grape leaf hoppers and beet leaf hoppers are examples of the latter class. The beet leaf hopper is a striking example of a rare and almost unknown insect becoming a serious pest under the influence of civilization. This insect is a native of the alkali deserts of the Southwest and was unknown until 1895. Soon after this, sugar beet raising was introduced into the region and this insect quickly transferred its affections from the desert plants of the beet family to the beets themselves, causing losses running into the millions of dollars in favorable seasons.

The writer is attempting to work out the food plants of all the leaf hoppers of the Western region, and in doing so has discovered a number of new forms that must be named before they can be included in the list.

The types of these new species are in the writer's collection.

Athysanus calvatus n. sp.

♀. Resembling *symphoricarpace*, but with a broader and much more inflated vertex and front. Straw color. Length 5 mm.

Vertex distinctly broader than in *symphoricarpace*, the apex obtusely roundly inflated, about two-thirds the length of the pronotum; front very broad, much inflated, the margins only slightly narrowing until just before the apex, where they are abruptly constricted to the clypeus. As seen in profile the apex of the front is distinctly above the clypeus and bulges so that it meets the rounding vertex margin at almost a right angle. Elytra rather long, venation simple, as in *vaccinii*, often an extra nervure or two on clavus to the suture and occasionally an extra cell in the outer anteapical, apical cells long. Female segment

moderately long, the outer angles prominent, the posterior margin with a slight median production, margins usually dark-marked.

Color: vertex bright straw, or lemon yellow, a pair of angular black spots well back of the ocelli and a pair of smaller ones behind these near the base, occasionally a trace of transverse brown band on disc. Face bright straw, sutures dark and occasionally a trace of brownish arcs on front and a pair of spots near apex. Pronotum all clear straw or dirty straw with the anterior light margin set off by dark spots. Elytra pale subhyaline straw, the nervures inclined to be lighter.

Described from four females from Logan and Richfield, Utah, collected by the writer. The inflated shining front and vertex gives this insect a distinctly "bald-headed" appearance, which is its most distinctive character.

***Athysanus shastus* n. sp.**

Size and form of *varus*, nearly resembling *striatulus* in pattern, but with fewer markings. Stout, rusty straw with darker margins. Length 4.5-5 mm.

Vertex broad slightly roundly right-angled, with the apex narrowly acutely produced, three-fourths the length of the pronotum. Front broad not inflated, narrowing regularly into the broad clypeus. Face in profile almost flat, acutely angled with the vertex. Pronotum long, the anterior margin curving deeply into head. Elytra very broad and extending well beyond the pygofers, broadly rounding behind with short apical cells. Venation strong, resembling *arctostaphyli*, but with a large number of irregular cross nervures on clavus and occasional supernumerary cells in the outer anteapicals, second cross-nervure often present. Female segment broad, moderately long, truncate, the apical angles slightly produced, pygofers very short strongly angularly inflated. Male plates together spoon-shaped, narrowed apically.

Color: vertex dirty straw, a transverse black band just back of ocelli, another just before this broken forward in the middle, both bands inclined to be emphasized at the end and against a narrow median line which bisects them; occasionally nothing is left but these enlargements. Front black with a triangle at apex and short arcs straw color. The rest of face straw color with sutures and an oval spot on clypeus dark. Pronotum rusty straw, darkening posteriorly to a dusky cloud on disc, anterior submargin with a few irregular black marks. Elytra smoky subhyaline, the nervures light, very narrowly lined with fuscous, emphasized in the smaller cells.

Described from two females and two males from Dunsmuir, California, collected by the writer. The broad form with short inflated pygofers renders this distinct species somewhat of a connecting link between the *obsoletus* and *striatulus* groups.

Athysanus escalantus n. sp.

♀. Resembling *simplarius*, but much shorter and stouter, straw colored. The vertex margin with a black line above and below. Length 4 mm.

Vertex twice wider than long, margins almost parallel, disc flat, anterior margin between the dark lines broadly rounding to the flat, retreating front. Front rather narrow, wedge-shaped, margin continuous with the clypeus margin. Pronotum scarcely longer than vertex, distinctly narrower than the head with eyes. Elytra broad and short, just equalling the pygofers, narrowing apically. Venation deltocephaloid, the central apical cell elongate, slightly constricted, apical cells short. Female segment short, apparently truncate.

Color: vertex straw yellow, a spot on each side against the eye and just back of the margin, a pair of elongate, partly coalescing spots inside these on each side, forming a slightly interrupted sub-marginal black band. Pronotum and scutellum soiled straw color. Elytra pale greenish subhyaline showing the rusty straw of the dorsum set off by two round black spots on the pygofers. Face straw yellow, slightly tawny, a narrow dark line under the vertex margin with a black spot just below and against each eye.

Described from a single female taken at Richfield, Utah, by the writer. In its broad head this species resembles *parallelus* and its allies, but in other characters it is distinctly allied to *osborni*.

Athysanus lassus n. sp.

Resembling *sexvittatus* in size and form. Brown and white with a pair of large, round, black spots on each of vertex, pronotum and scutellum. Length 4 mm.

Vertex obtusely angled, the apex rounding, shorter than *sexvittatus*, only a little longer on middle than against eyes, two-thirds the length of the pronotum, slightly acutely angulate with the front, the margin blunt. Front broader than in *sexvittatus*, margins slightly rounding but continuous with those of clypeus. Elytra equalling or slightly exceeding pygofers, nearly parallel-margined, flaring. Venation deltocephaloid, the central anteapical slightly constricted, sometimes divided, but not extending much beyond the adjacent cells. Female segment short, lateral angles rounding, posterior margin excavated with a broad, short, median tooth. Male plates broad at base obtusely triangular, the apices acutely produced.

Color: vertex creamy, a pair of round black dots just back of the apex, a pair of large round black spots on the margin between the dots and the ocelli, sometimes another pair of black dots behind the first and often traces of brown stripes towards the base. Pronotum

milky, a pair of large, round, black spots on the anterior margin behind the two on vertex, usually two pairs of brown stripes, the inner pair arising some distance behind the eyes and curving slightly to join the inner pair just over a pair of black spots on the scutellum partly hidden by the pronotum. Elytra milky, an indistinct brown stripe on each clavus and usually two on the corium omitting the veins.

Described from two females and two males from Quincey, California, collected by the writer. The three pairs of black spots will at once distinguish this species.

Platymetopius compactus n. sp.

♀. Resembling *abruptus* and *nasutus* but broader, with the short vertex of a *brevis*. Broad, short, dark above and below. Length 4.5 mm.

Vertex scarcely longer but somewhat narrower than in *brevis*, forming a slightly sharper angle, length slightly more than the basal width, about equalling the pronotum, angle with the face about as in *brevis*, the face in profile almost straight. Elytra broad and rather short, venation normal except that the fourth apical cell is extremely wide, due partly to the first reflexed veinlet being placed far forward and partly to the extremely narrow base of the third apical which appears to be cut off by a dark marking to form a small circular cell. Female segment very short and almost truncate, disc slightly convex with the posterior margin raised, giving a concave effect.

Color-pattern of *nasutus* nearly, vertex heavily irrorate with fuscous, omitting a transverse light band before the eyes narrower and more uniform than in *nasutus*, and an ivory spot at apex. Pronotum paler, irregularly irrorate with fuscous, omitting the anterior margin. Scutellum irrorate with fuscous, omitting a pair of spots on disc and the apical margin. Elytra milky, nervures and coarse vermiculations dark, the reflexed ones margined with black. A dark irrorate cloud on clavus and in the apical cells, omitting two pairs of round spots along the sutural margin, the first apical cell, a round spot at the base of the other apicals and one in each end of the antepicals as well as the costal margin before the middle of the fourth apical. Whole face heavily irrorate with brownish fuscous, omitting a narrow margin against the vertex and a triangle below the apex. Below dark except the disc of female segment.

Described from a single female taken at Dunsmuir, California, by the writer. The short vertex and wide apical cells will separate this from any other species.

(to be continued)